

WHAT IS CLAIMED IS:

1                   1.     A method for transferring messages in a distributed communication  
2 network, wherein the distributed communication network includes a message source coupled  
3 to a message destination by a plurality of message paths, each of the message paths including  
4 at least one overlay route processor coupled to the message source by at least one network  
5 path, the network path including intervening network components, the method comprising:

6                             choosing a plurality of candidate overlay route processors;

7                             ascertaining the identity of the intervening network components in the  
8 network paths between the message source and each of the candidate overlay route  
9 processors;

10                            selecting a plurality of selected overlay route processors from the  
11 candidate overlay route processors based on minimizing the number of overlapping  
12 intervening network components in the network paths between the message source and the  
13 selected overlay route processors by analyzing the ascertained identities of the intervening  
14 network components; and

15                            transferring a message from the message source to the selected overlay  
16 route processors along the network paths with a minimized number of overlapping  
17 intervening network components.

1                   2.     The method of claim 1, further comprising during the selecting step,  
2 selecting a plurality of selected overlay route processors with zero overlapping intervening  
3 network components in the network paths between the message source and the selected  
4 overlay route processors.

1                   3.     The method of claim 1, wherein the choosing step includes choosing at  
2 least five candidate overlay route processors.

1                   4.     The method of claim 1, wherein the ascertaining step includes  
2 ascertaining the identity of intervening network components including intervening routers,  
3 intervening switches and intervening firewalls.

1                   5.     The method of claim 1, wherein the selecting of a plurality of selected  
2 overlay route processors from the plurality of candidate overlay route processors is based  
3 initially on minimizing the number of overlapping intervening network components in the  
4 network paths between the message source and the selected overlay route processors and then  
5 based on minimizing the number of intervening network components.

1                   6.     The method of claim 1, wherein the selecting of a plurality of selected  
2 overlay route processors from the plurality of candidate overlay route processors is based  
3 initially on minimizing the number of overlapping intervening network components in the  
4 network paths between the message source and the selected overlay route processors and then  
5 based on maximizing the transmission speed between the message source and the selected  
6 overlay route processors.

1                   7.     The method of claim 1, wherein the ascertaining step includes  
2 ascertaining the IP-address identity of the intervening network components.

1                   8.     The method of claim 7, wherein the ascertaining step uses a series of  
2 User Datagram Protocol (UDP) packets.

1                   9.     The method of claim 7, wherein the ascertaining step uses a series of  
2 Internet Control Message Protocol (ICMP) packets.

1                   10.    The method of claim 1, further comprising during the transferring step,  
2 transferring a message from a connector message source.

1                   11.    A method for transferring messages in a distributed communication  
2 network, wherein the distributed communication network includes a connector message  
3 source coupled to a connector message destination by a plurality of message paths, each of  
4 the message paths including at least one overlay route processor coupled to the message  
5 source by at least one network path, the network path including intervening network  
6 components, the method comprising:

7                   choosing a plurality of candidate overlay route processors;

8                   ascertaining the IP-address identity of the intervening network  
9 components in the network paths between the connector message source and each of the  
10 candidate overlay route processors;  
  
11                   selecting two selected overlay route processors from the plurality of  
12 candidate overlay route processors based on minimizing the number of overlapping  
13 intervening network components in the network paths between the connector message source  
14 and the two selected overlay route processors by analyzing the ascertained IP-address  
15 identities of the intervening network components; and  
  
16                   transferring a message from the connector message source to the two  
17 selected overlay route processors along the network paths with a minimized number of  
18 overlapping intervening network components.

19                   12.     The method of claim 11, further comprising during the selecting step,  
20 selecting two selected overlay route processors with zero overlapping intervening network  
21 components in the network paths between the connector message source and the two selected  
22 overlay route processors  
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